

CLAIMS

What is claimed is:

1. A disk tray for a disk drive that slides in and out of the disk drive, the disk tray comprising one or more resonators mounted on a lower surface of the disk tray to selectively reduce noise of a predetermined frequency band.
2. The disk tray according to claim 1, wherein each of the one or more resonators comprises:
 - a through hole penetrating the disk tray and operating as an entrance and a bottle neck of each resonator; and
 - a resonance container surrounding the through hole and having a predetermined volume, the predetermined frequency band being determined according to an area of a profile of the through hole, a length of the bottle neck of the through hole, and a volume of the resonance container.
3. The disk tray according to claim 2, wherein the resonator further comprises an absorbing member filling the resonance container.
4. The disk tray according to claim 3, wherein a bottom surface of the resonance container is open.
5. A disk drive comprising:
 - a disk tray that slides in and out of the disk drive and on which a disk is placed;
 - a disk driving portion rotating the disk at a predetermined speed;
 - a disk chucking apparatus holding the disk on the disk driving portion;
 - a data recording/reproducing unit recording data on the disk or reproducing data from the disk; and
 - one or more resonators installed on a lower surface of the disk tray to selectively reduce noise of a predetermined frequency band.
6. The disk tray according to claim 5, wherein each of the one or more resonators comprises:

a through hole penetrating the disk tray and operating as an entrance and a bottle neck of each resonator; and

a resonance container surrounding the through hole and having a predetermined volume, the predetermined frequency band being determined according to an area of a profile of the through hole, a length of the bottle neck of the through hole, and a volume of the resonance container.

7. The disk tray according to claim 6, wherein the resonator further comprises an absorbing member filling the resonance container.

8. The disk tray according to claim 7, wherein a bottom surface of the resonance container is open.

9. A resonator for a disk tray of a disk drive, comprising:

a through hole penetrating the disk tray and operating as an entrance and a bottle neck of the resonator; and

a resonance container surrounding the through hole and having a predetermined volume, the resonator being mounted on the disk tray to selectively reduce noise of a predetermined frequency band, the predetermined frequency band being determined according to an area of a profile of the through hole, a length of the bottle neck of the through hole, and the volume of the resonance container,

wherein the resonator converts sound energy to thermal energy to reduce a sound pressure level of a resonance frequency to selectively absorb a specific frequency.

10. The resonator according to claim 9, wherein the resonator further comprises an absorbing member filling the resonance container to selectively reduce noise of a frequency band larger than the predetermined frequency band.

11. The resonator according to claim 10, wherein the absorbing member is a porous member.

12. The resonator according to claim 11, wherein the porous member is a sponge.